SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss in detail about the problem characteristics.

17. Explicate the following Crypt arithmetic problem :

EAT

+THAT

- - - - - - -

APPLE

18. Explain the concept of Forward Versus Backward Reasoning Technique.

19. Describe any four approaches to Machine Learning in detail.

20. Discuss on the process of Machine Learning Cycle.

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APRIL/MAY 2025

23PECS24A — ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. State three important AI Techniques.

2. Define the term – Heuristic.

3. Write the use of Steepest-ascent Hill Climbing Method.

4. What is known as Frame Problem?

5. Translate the sentence "John likes all kinds of Food" into Predicate Logic.

6. Differentiate between Procedural and Declarative Representations.

7. What is Machine Learning?

8. List down the advantages of Supervised Machine Learning.

9. What Business Problems can Machine Learning solve?

10. Mention the use of Sentiment Analysis.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the Water Jug Problem with their major Production Rules.

Or

(b) Briefly discuss on the Control Strategies in Production System.

12. (a) Illustrate the Generate-and-Teat Search Strategy.

Or

(b) Outline the Approaches to Knowledge Representations.

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13. (a) How to represent simple Facts in Logic? Explain it with examples.

Or

(b) Show how to represent Search Control Knowledge in Rules.

14. (a) Summarize about the importance of the Hybrid Cloud.

Or

(b) Examine the Roles of Statistics and Data Mining with Machine Learning.

15. (a) Briefly describe the process of Data Preparation in Machine Learning.

Or

(b) Explicate any five Applications of Machine Learning.